

REMOTE POSTAGE METER INSPECTION SYSTEM

BACKGROUND OF THE INVENTION

Postage meters are in common usage throughout the business world because of their ability to save time and allow an accounting of the amount of postage used. Postage meters are charged with monetary value upon payment to the Post Office of a selected amount. This monetary value is reduced as postage is applied to mail pieces. Because the postage meter does contain monetary value, care must be taken that no unauthorized postage impressions be made for to do so would be defrauding the Postal Service. Various security measures have been devised to prevent postage meter tampering through which unauthorized postage could be printed. Included in such security measures are break away screws, sealed housings, and the fact that postage meters are leased by the user rather than being owned. To ensure that postage meter tampering has not taken place, the U.S. Postal Service has a regulation that every leased postage meter must be physically inspected at least two times a year by the manufacturer of that postage meter. This requires an inspector visiting the premises of the user to carry out the inspection. Similar procedures exist in other countries. The cost of such inspection is approximately \$50.00 per inspection or \$100.00 a year for every installed postage meter. With almost one million postage meters installed in the United States, this amounts to a cost of approximately one hundred million dollars every year for postage meter inspection.

Recently there have been two developments in the postage meter field that are bringing about substantial changes. One of the developments is a result of the advancement of electronics which has led to the electronic postage meter. The electronic postage meter is one in which solid state devices instead of mechanical systems are used for such purposes as memory and control. The second development is the use of encryption for the purpose of authenticating a postage indicia. It obviously would be beneficial if these recent developments may be utilized to reduce the need for the physical inspection of every postage meter.

SUMMARY OF THE INVENTION

A remote postage meter inspection system has been devised whereby a postage meter may be programmed to indicate the occurrence of any tampering or attempt to obtain unauthorized postage. A postage meter is supplied with sensors that would be electronically polled periodically through a communication link. When an act of tampering has been indicated, then the meter would be either inspected physically or removed. An alternative embodiment to this would be to have a postcard imprinted with the postage indicia by each meter with "tells" to indicate the occurrence of tampering.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a block diagram showing a remote postage meter inspection system.

FIG. 2 is a block diagram of an alternative embodiment for a remote postage meter inspection system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A postage meter inspection system has been devised that reduces the need for on site inspection. Referring to FIG. 1, a preferred embodiment will be described that allows the inspection of a postage meter remotely. Such a remote postage meter inspection system is shown generally at 10 and includes a central station 12. This central station 12 may be either a Post Office or the office of a postage meter manufacturer. Included within the central station 12 is a processor 14 that is in communication with a memory 16. This memory 16 would include all the postage meters that are to be serviced by the central processing station 12 and would contain information such as a meter number or customer number, the date of last inspection, the name of the user and any other pertinent information such as any history of prior tampering. By tampering is meant any activity that appears to involve the obtaining of fraudulent postage, i.e. the applying of postage to a mail piece without paying or accounting for the same. Also connected to the processor 14 would be a second memory 18 wherein a record of meters that are to be inspected for any given period would be stored. Obviously, these two memories 16,18 could be combined into one if so desired. The central processor 14 is in communication with a communication link or port such as a modem 20 which in turn is in communication with a communication device such as a telephone 22. A postage meter user location 24 would include a communication port, such as a modem 26, that would provide connection between the telephone 22 and a CPU 28. When a postage meter at the user location 24 is to be inspected, communication would be made with the user location 24 by telephone 22 through the modem 26. Alternatively, an inspection may be made simultaneously when remotely recharging a postage meter by having tampering information sent automatically to the central station 12.

The CPU 28 is electrically connected to an electronic postage meter 30 which has a CPU 32 and a memory 34 communicating directly with the CPU 28 the postage meter. Although this embodiment shows only one postage meter 30 in communication with the CPU 28, it will be appreciated that a plurality of postage meters may be connected to the CPU 28 in network fashion. The postage meter 30 has a number of sensors 36 that are in contact with the memory 34. Any attempt of tampering would be sensed by the sensors 36, which, in turn, would communicate such sensing to the memory 34 where a flag would be set. Upon command, the memory 34 would be accessed and a determination made whether a flag had been set which would be an indication of tampering. Such accessing could take place in accordance during power-up of the postage meter 30.

With such a system 10, a number of meters 30 would be assigned for inspection during any given period and each group of meters 30 to be inspected would be supplied through the memory 16. The central station 12 would then be in touch with the user station 24 indicating that inspection is to take place. The processor 14 of the central station 12 would then directly contact the CPU 32 of the postage meter 30 without any intervention or interference on the part of the user. The memory 34 of the postage meter 30 would be scanned to determine if any of the sensors 36 sensed any unusual activity. For example, if an attempt had been made to remove the postage meter cover or a break off screw is